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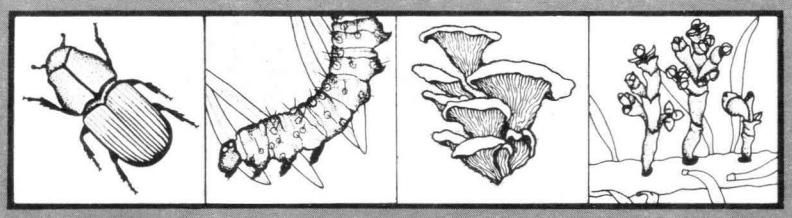
Forest Pest Management



Report 90-8

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RECREATION SITE MONITORING CRITERIA FOR GYPSY MOTH IN THE NORTHERN REGION

by

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INTRODUCTION

The potential for gypsy moth (*Lymantria dispar*), a serious pest in eastern hardwood ecosystems, colonization in the western United States will increase as movement of individuals and families from generally infested areas of the country travel or relocate westward. Currently, Utah and Idaho have reproducing populations which, if not eradicated, could spread to other forested areas in the Rocky Mountain Region. In the Northern Region, the gypsy moth poses its greatest threat to the 21,000 miles of stream habitat where species in the genera *Alnus*, *Salix*, *Populus*, and *Betula* comprise a large percentage of the riparian plants present. The many acres of western larch, lodgepole pine, and Douglas-fir present on National Forests and other Federal lands in the Region may also serve as host material. Recent studies (Miller and Hanson, 1989a and 1989b) have shown these genera, as well as many other western plant species, have the potential to supply the gypsy moth with a quality food source for growth and development. It is unclear what potential exists for gypsy moth to use riparian zones as "reservoirs" from which to spread outward into surrounding conifer stands.

In addition to the ecological uncertainties associated with gypsy moth colonization in the Northern Region ecosystems are the social and political ramifications of State and Federal quarantines that may restrict the movement of nursery stock, Christmas trees, household goods, and raw and finished forest products within and out of the Region. We believe that the costs associated with survey, early detection, and prevention of established populations through early interdiction would be preferred to those costs associated with quarantines and large eradication and/or suppression efforts, which are likely to occur should infestations go undetected in the early stages of colonization.

Gypsy moth coordination committees, made up of the Forest Service, Animal Plant and Health Inspection Service (APHIS), and State Departments of Agriculture, Lands, and/or Forestry now exist in the States of Idaho, Montana, Wyoming, and North Dakota. These committees are designed to coordinate and standardize monitoring, survey, and control activities within the States and Region. We support the formation of State survey and detection committees, as well as cooperative agreements which would determine and clarify each agency's (State and Federal) role in any future eradication or suppression effort.

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COOPERATIVE EFFORTS WITHIN THE REGION

In Montana, State and Federal agencies have been cooperatively placing detection traps for gypsy moth since 1984. Similar efforts have been conducted with the other States in the Region. A cooperative effort is required given the many areas which need to be surveyed and the responsibilities associated with the multiple State and Federal agencies involved. Detection trapping should continue to take place in those areas where isolated infestations are most likely to occur (essentially in the Northern Region this means recreation sites). With a confirmed catch in the detection traps, a delimitation survey should be initiated the following year. Delimitation trapping is a more intensive survey designed to locate isolated infestations by placing additional traps in areas where single or multiple moth catches are found in survey traps.

SITE SELECTION CRITERIA AND PLAN OF ACTION IN THE REGION

Site selection and monitoring of recreation sites will be influenced by the biology of the gypsy moth. With egg hatch usually occurring from mid April to mid May, and the opening of recreation sites on or near Memorial Day, most of the gypsy moths introduced into recreation sites will probably be larvae or pupae. However, the potential for gypsy moth egg masses to be brought in during the winter and spring on personal items (bikes etc.) carried by seasonal employees and others still exists. As such, the possibility of egg mass introductions into recreation sites is still cause for concern as this life stage poses the greatest threat for the introduction of populations. Thus, detection traps should be placed in all recreation and other sites which meet the following criteria no later than June 15th so that emerging adult males can be detected. Traps should be retrieved between August 31st and September 14th after male flights have been completed. We recommend trapping of identified sites within the Region take place on an annual basis. The following criteria apply to all Federal lands in the Northern Region, except Yellowstone and Glacier National Parks, which due to their heavy tourist traffic throughout the year will be considered separately:

Recreation sites in or adjacent to stands having a riparian, western larch, or hardwood (aspen or cottonwood) component;

and

1. support greater than 4,000 recreation visitor days (RVD's) of general auto and/or trailer camping/ picnicking per year;

or

2. are likely to be visited in the spring by people from generally infested areas. Examples are sites on Federal lands adjacent to fishing areas, lodges, religious retreats, summer camps, etc. Also included are areas which have spring arrival of large numbers of seasonal employees from generally infested areas;

or

3. are near year-round resorts. Examples are campgrounds and picnic areas near Yellowstone, Glacier National Park, or other areas which support winter recreation (such as ski resorts);

or

4. are near residential areas with mobile or seasonal populations. Examples are sites near summer home groups on Federal lands and residential areas with resorts.

On each trap and trap reporting sheet, a number and letter designation should be assigned, e.g., site 1, trap a. Usually two traps are placed at one site (in close proximity < 1 mi. apart) so a number and letter designation will help define more precisely the location of positive moth catches. In addition, this system will allow trap locations to be entered into the Region's data base for future reference. We request that all trap reporting sheets, with detailed trap location, number and letter designation, etc., for areas surveyed be returned to Timber, Cooperative Forestry, and Pest Management (TCFPM)[1] in Missoula after retrieval in the fall. The results of survey and delimitation efforts, Region wide, will be reported to each cooperator after trap information is collected in the fall. Any traps with suspected gypsy moths should also be returned to TCFPM in Missoula for positive identification.

A preliminary list (Appendix A) has been prepared which identifies those recreation sites which in the past have had greater than or equal to 4000 RVD's. Forests should compare these sites against the above forest type criteria when determining final trap locations.

REFERENCES

Miller J.C. and P.E. Hanson. 1989. Laboratory Feeding Tests On The Development Of Gypsy Moth Larvae With Reference To Plant Taxa and Allelochemicals. Agricultural Experiment Station Bull. 674. 63 pp. Oregon State University, Corvallis, OR.

Miller J.C. and P.E. Hanson. 1989. Laboratory Studies On Development Of Gypsy Moth *Lymantria dispar* (L.) (Lepidoptera: Lymantriidae), Larvae On Foliage Of Gymnosperms. Can. Ent. 121(6):425-429.

[1]USDA Forest Service, TCFPM; Attn.: Gypsy Moth; P.O. Box 7669; Missoula, MT 59807

APPENDIX A

Campgrounds, Picnic Grounds And Trailheads Which Have The Potential For Gypsy Moth Introduction Based On Recreation Visitor Days (RVD's)

Ownership	Ranger District	Site Name
Beaverhead NF	Dillon	Grasshopper C
	Wisdom	May Creek C
		Twin Lakes Camp C
		Miner Lake C
	Sheridan	Mill Creek C
	Madison	Wade Lake C
		Madison River C
		Potosi C
		Cliff Lake C
Idaho Panhandle NF	Wallace	Kit Price C
		Big Hank C
		Shoshone Park P
	Avery	Conrad Crossing C
		Fly Flat C
		Spruce Tree C
		Turner Flat C
		Tin Can Flat C
	Fernan	Rainy Hill C
		Beauty Creek C
		Bumblebee C
	St. Maries	Shadowy St. Joe C
	Sandpoint	Samowen C
		Garfield Bay C
	Bonners Ferry	Smith Lake C
		Robinson Lake C
		Copper Creek C
		Meadow Creek C
	Priest Lake	Beaver Creek Recreation Site T
		Luby Bay C
		Reeder Bay C
		Silver C
Clearwater NF	Palouse	Laird Park C
	North Fork	Washington Creek C
		Aquarius C
		Kelly Forks C
	Lochsa	Wilderness Gateway C
	Powell	Powell C

Custer NF	Beartooth	Greenough Lake C
		Parkside C
		Woodbine C
		Basin C
		Emerald Lake C
		Pine Grove C
		East Rosebud C
		West Rosebud C
	Medora	Buffalo Gap C
		Limber Pine C
Deerlodge NF	Deer Lodge	Racetrack C
	Jefferson	Homestake Lake P
		Delmoe Lake P
	Philipsburg	Lodgepole C
		Piney C
		Philipsburg Bay C
		Copper Creek C
		East Fork C
		Spillway C
	Butte	Sheepshead P
Flathead NF	Swan Lake	Holland Lake C
		Swan Lake Annex C
		Swan Lake P
	Spotted Bear	Spotted Bear C
	Hungry Horse	Lost Johnny Point C
		Devil Creek C
	Tally Lake	Tally Lake C
Gallatin NF	Big Timber	Hicks Park C
		Falls Creek C
		West Boulder C
		Halfmoon C
		Aspen Grove C
	Gardiner	Soda Butte C
		Colter C
	Bozeman	Red Cliff C
		Greek Creek C
	Hebgen Lake	Rainbow Camp C
		Cherry Creek C
		Bakers Hole C
		Beaver Creek C
		Cabin Creek C
		Lonesomehurst Camp P
	Livingston	Pine Creek C

Helena NF	Townsend	Skidway C
		Deep Creek C
	Lincoln	Copper Creek C
		Aspen Grove C
	Helena	Cromwell-Dixon C
Kootenai NF	Rexford	Peck Gulch C
		Rexford Bench C
	Troy	Dorr Skeels C
		Yaak River C
		Bad Medicine C
		Ross Creek P
	Fisher River	McGillivray C
	Cabinet	Bull River C
Lewis and Clark NF	Judith	Dry Wolf C
		Thain Creek C
		Crystal Lake C
	Kings Hill	Moose Creek C
		Many Pines C
		Jumping Creek C
		Grasshopper C
		Kings Hill C
		Aspen C
	Rocky Mtn.	Summit C
Lolo NF	Missoula	Pattee Canyon P
		Lee Creek C
		Lewis and Clark C
	Ninemile	Grand Menard P
		Ninemile Ranger St.
	Plains/T. Falls	Cascade C
	Seeley Lake	Seeley Lake C
		Big Larch C
		River Point C
	Superior	Trout Creek C
		Quartz Flat C
		Sloway C
Nez Perce NF	Selway	O'Hara Bar C
		Twenty Mile Bar C
		Johnson Bar C
		Glover Creek C
Crow Indian Reservation	Crow Agency	Crow Agency Fairgrounds

Glacier NP		Rising Sun C
		Apgar C
		Avalanche C
		Two Medicine C
		Many Glacier C
		Belly River T
		Goat Lick Parking Area
Yellowstone NP	Campgrounds	Mammoth
		Slough Creek
		Pebble Creek
		Tower Fall
		Norris
		Canyon
		Fishing Bridge RV Park
		Fishing Bridge Campground
		Bridge Bay
		Madison
		Grant Village
		Lewis Lake
		Indian Creek
	Major Developments	Grant Village
		Old Faithful
		West Yellowstone
		Lake
		Canyon
		Roosevelt
		Mammoth
		Gardiner
	Major Attractions	Norris Geyser Basin
		Tower Fall
		Inspiration Point
		Artist Point
		Fountain Paint Pots
		West Thumb
		Fishing Bridge
		Midway Geyser Basin
		Mud volcano
		Bridge Bay Marina

Yellowstone NP Cont.,	Major Trailheads	Snake River Delacey Heart Lake Clear Creek Pelican Valley Slough Creek Hellroaring Soda Butte Lamar Blacktail Mt. Washburn Riddle Divide Lone Star Dechler
	Smaller Significant Features/Trailheads	Gov. Area/Hamilton Stores HQ at west entrance. Bighorn Pass T Fawn Pass T Obsidian Cliff Glen Creek T Gibbon Falls Biscuit Basin Black Sand Basin Lake Butte Seven Mile T The Thunderer T Nez Perce/Porcupine T Winter Creek T Cave Falls
Turtle Mtn. Indian Reservation		Dion Lake Lake Upsilon Peace Garden

C = Campground
P = Picnic Ground
T = Trailhead